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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,534	09/18/2001	John G. McDonough	TI-31697	8542
23494	7590	01/24/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			AHN, SAM K	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	
			2637	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/955,534

Applicant(s)

MCDONOUGH, JOHN G.

Examiner

Sam K. Ahn

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 8 and 11-21 is/are rejected.
- 7) ☒ Claim(s) 4-6, 9, 10 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1-17,21 and 22 are objected to because of the following informalities:

In claim 1, line 5, delete "from memory" and insert "from a memory".

In claim 1, line 8, delete "from memory" and insert "from the memory".

In claim 2, line 2, delete "retrieving from the memory comprises retrieving from" and insert "the memory is".

In claim 3, line 3, delete "adding n" and insert "adding the fixed integer value n".

In claim 5, lines 2 and 5, respectively, delete "from memory" and insert "from the memory".

In claim 7, line 5, delete "from memory" and insert "from a memory".

In claim 7, line 8, delete "from memory" and insert "from the memory".

In claim 8, line 2, delete "from memory" and insert "from a memory".

In claim 8, lines 5 and 7, respectively, delete "from memory" and insert "from the memory".

In claim 9, line 3, delete "in memory" and insert "in a memory".

In claim 9, line 5, delete " "n" ", and insert "n".

In claim 9, line 6, delete " n" ", and insert "n".

In claim 9, line 9, delete "; and" and insert "where q is a fixed integer value; and".

In claim 10, line 3, delete " "x" " and insert "x".

In claim 10, line 4, delete "memory, and x(i) and y(i) are two related sequences each" and insert "a memory, the PN sequence".

Art Unit: 2637

In claim 10, line 6, delete "from memory" and insert "from the memory in sequences of".

In claim 10, line 9, delete "values." And insert "values to produce the complex Gold Code sequence.".

In claim 10, please define the variables in the equation including M, n, m, i and q.

In claim 11, line 3, delete "memory" and insert "a memory".

In claim 16, line 13, delete "fashion, a" and insert "fashion, the".

In claim 21, line 2, delete "read-only memory (ROM)" and insert "ROM".

In claim 22, line 12, delete "sequence;" and insert sequence, where n is a fixed integer value;".

In claim 22, line 15, delete "sequence;" and insert sequence, where q is a fixed integer value;".

Claims 4,6,12-15 and 17 directly depend on claim 1 or 11. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 11-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was

not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claims 11,15,17 and 18, lines 16,7,6 and 17, respectively, recite wherein a multiplexer is coupled to memory address inputs. It appears from the drawing and the specification that only one line may be necessary for the connection between the multiplexer and the memory address input, wherein the claim recites having plurality of inputs. The specification does not support how plurality of memory address inputs coupled to the multiplexer may be incorporated to function as recited in the claims. Claims 12-14,16 and 19-21 directly or indirectly depend on claim 11 or 18.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,3,7 and 8 rejected under 35 U.S.C. 102(e) as being anticipated by Ogawa et al., USP 6,738,411 B1 (Ogawa).

Regarding claims 1,7 and 8, Ogawa teaches a method for use in generating one or more data sequences for spread spectrum communications (see Figs.14 and 15),

Art Unit: 2637

the method comprising: serially generating a Gold code sequence (output of X1, X2, X3) by, for each count value i of a plurality of count values (generated by the shift clock CLK, note col.17, lines 21-24): retrieving from a memory (SR1, SR2) a bit of a PN sequence corresponding to an $(i+n)$ th position in the PN sequence, where n is a fixed integer value (wherein the $i+n$ position may be 2); retrieving from the memory a bit of a PN sequence corresponding to an $(q*i)$ or $(q_i + k)$ th position in the PN sequence, where q is a fixed integer value (wherein $q*i$ position may be 2 and k may be 0 or other value determined by IN1, IN2, note col.17, lines 21-24); and adding (X1,X2,X3) the bit corresponding to the $(i+n)$ th position with the bit corresponding to the $(q*i)$ th position.

Regarding claim 3, Ogawa teaches all subject matter claimed, as applied to claim 1. Ogawa further teaches wherein for each count value i of the plurality of count value (generated by the shift clock CLK) adding the fixed integer value n and the count value i (by shifting the bit position in the shift register in the plurality of count value).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al., USP 6,738,411 B1 (Ogawa).

Regarding claim 2, Ogawa teaches all subject matter claimed, as applied to claim 1. Ogawa further teaches retrieving bit of a PN sequence through a shift register (SR1, SR2), and further teaches wherein the bits are further retrieved from a memory (24 in Fig.7). And although Ogawa does not explicitly teach wherein the memory is a ROM, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement the memory using a ROM. Applicant has not disclosed that using the ROM provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with any type of memory (such as a hard drive, RAM, ROM, etc.) for the function of storing the PN sequences. Therefore, it would have been obvious to one of ordinary skill in this art to modify Ogawa's memory with the ROM to obtain the invention as specified in the claim.

Allowable Subject Matter

5. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and overcome the claim objections.
6. Claims 9,10 and 22 would be allowable if rewritten or amended to overcome the claim objections, set forth in this Office action.

7. Claims 11-17 and 21 would be allowable if rewritten or amended to overcome the 112, 2nd paragraph rejections and the claim objections, set forth in this Office action.
8. Claims 18-20 would be allowable if rewritten or amended to overcome the 112, 2nd paragraph rejections; set forth in this Office action.
9. The following is a statement of reasons for the indication of allowable subject matter:
Present application discloses a ROM coupled to circuitry for producing a PN sequence and a Gold code sequence selected by a controller. Closest prior art, Ogawa, teaches in the same field of endeavor, producing the same sequence. However, Ogawa does not teach wherein the memory is accessed sequentially and non-sequentially through addition and multiplication with a counter, and further does not teach performing the equation as recited in claim 10. Ogawa also does not teach the the circuitry comprising the memory, counting device, a first adder, a multiplier and a first multiplexer configured as recited in the claims. Therefore, prior art does not teach or suggest in combination of all the subject matter claimed.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McDonough, common applicant of '959, '563, '199 and '687, teach generation of PN or gold sequences.

Gurney teaches generation of codes using a binary counter.

Art Unit: 2637

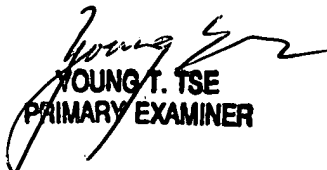
Miller et al. teach generation of PN codes using a linear feedback shift register (LFSR).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam K. Ahn
1/19/05


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PRIMARY EXAMINER